

# Porter Angielski

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **25**
- SRM **29**
- Style **Brown Porter**

## Batch size

- Expected quantity of finished beer **22.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.6 liter(s)**
- Boil time **75 min**
- Evaporation rate **10 %/h**
- Boil size **29.1 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **22.8 liter(s)**
- Total mash volume **29.3 liter(s)**

## Steps

- Temp **52 C**, Time **15 min**
- Temp **69 C**, Time **75 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **22.8 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **15 min** at **52C**
- Keep mash **75 min** at **69C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **12.8 liter(s)** of **76C** water or to achieve **29.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4.5 kg (69.2%)	80 %	5
Grain	Abbey Malt Weyermann	0.5 kg (7.7%)	75 %	45
Grain	Caramel/Crystal Malt - 120L	0.5 kg (7.7%)	72 %	236
Grain	Czekoladowy	0.5 kg (7.7%)	60 %	788
Grain	Słód Caramunich Typ II Weyermann	0.5 kg (7.7%)	73 %	120

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	50 g	60 min	5.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M36 Liberty Bell Ale	Ale	Dry	11 g	Mangrove Jack's